

CLAIMS

1. Process for determining the number of transport seats available in a computerized reservation system, whereby said system includes means for storing data on services that provide transportation between two locations and their current reservation status, broken down by class of service, a process in which, at a predefined level of expected revenue (Y), a number of seats locally available  $av_{Fik}(Y)$  is determined for a given class of service (k) on a given transport service ( $F_i$ ), characterized by the fact that:

for a given class of service (k) on a given transport service ( $F_i$ ), the following steps are carried out:

- at least one other class of service (k') of a transport service ( $F_j$ ) is selected;
- the number of locally available seats  $av_{Fjk}(Y)$  is determined for the class of service (k') of the transport service ( $F_j$ ) at the predefined level of expected revenue (Y);
- an overall number of available seats  $XFAV_{Fjk}(Y)$  is determined for the given class of service (k) of the given transport service ( $F_i$ ) at the predefined level of expected revenue (Y) as a function of the different number of seats available locally ( $av_{Fik}(Y)$ ,  $av_{Fjk}(Y)$ ).

2. Process according to Claim 1, wherein:

- at least one other class of service (k') that belongs to another transport service ( $F_j$ ) is selected;

- the overall number of available seats  $XFAV_{Fik}(Y)$  is determined by adding up the numbers of seats available locally ( $av_{Fik}(Y)$ ,  $av_{Fjk'}(Y)$ ) of the two classes of service (k, k').

3. Process according to Claim 1, wherein:

- to each class of service a boundary transfer value ( $SP^{max}$ ) is assigned that corresponds to the maximum number of reservation requests for the class of service that can be transferred to seats on other classes of service;
- for each class of service, a number of transferable reservation requests ( $SP(Y)$ ) is determined that is equal to:
  - either zero, if the number of seats available locally for said class of service (k) is positive,
  - or the inverse of the number of seats available locally for said class of service (k) if said number is negative and its inverse is less than the boundary transfer value ( $SP^{max}$ );
  - or the boundary transfer value ( $SP^{max}$ ) if the number of seats available locally is negative and its inverse is greater than or equal to said boundary transfer value ( $SP^{max}$ );
- for each class of service, a number of reservation requests that can be accepted ( $SA(Y)$ ) is determined that is equal to:
  - either zero, if the number of seats available locally for said class of service  $av(Y)$  is less than or equal to zero;
  - or the number of seats available locally for said class of service  $av_k(Y)$  if this number is positive.

4. Process according to Claim 3, wherein:

- to each class of service a boundary acceptance value ( $SA^{max}$ ) is assigned that corresponds to the maximum number of seats in said class of service that can be used to transfer reservation requests on other classes of service;
- an upper limit that is equal to the boundary acceptance value ( $SA^{max}$ ) is assigned to the number of reservation requests that can be accepted.

5. Process according to Claim 3, wherein:

- a single other class of service ( $k'$ ) that belongs to another transport service ( $F_j$ ) is selected;
- the total acceptance capacity ( $TSA_k$ ) from the other class of service ( $k'$ ) for the given class of service ( $k$ ) is determined by selecting the minimum value from the boundary transfer value ( $SP_{Fjk}^{max}$ ) of the given class of service ( $k$ ) and the number of reservation requests that can be accepted ( $SA_{Fjk}(Y)$ ) on said other class of service ( $k'$ ),
- the total transfer capacity ( $TSP_k$ ) on said other class of service ( $k'$ ) is determined on the given class of service ( $k$ ) by selecting the minimum value from the number of transferable reservation requests for the other class of service ( $k'$ ) ( $SP_{Fjk}(Y)$ ) and the number of reservation requests that can be accepted on the given class of service ( $k$ ) ( $SA_{Fik}(Y)$ ),
- the overall number of available seats  $XFAV_{Fik}(Y)$  is calculated by:
  - adding the number of seats available locally  $av_{Fik}(Y)$  and the total acceptance capacity  $TSA_{Fik}(Y)$ ,

- and subtracting therefrom the total transfer capacity  $TSP_{Fik}(Y)$ .

6. Process according to Claim 4, wherein:

- a transport service chain ( $F_i$ ) is formed that has successive departure times and where each departure time has a selected class of service ( $k, k'$ ),
- an index  $i$  is assigned to each transport service, whereby the value of said index increases with the time of departure,
- for each class of service ( $k$ ) of a given transport service ( $F_i$ ), the classes of service ( $k'$ ) of the transport service are selected that have a lower index to which the reservation requests on the class of service of the given transport service ( $F_i$ ) can be transferred.

7. Process according to Claim 6, wherein:

the total acceptance capacity  $TSA_{Fik}(Y)$  for the class of service ( $k$ ) is determined by selecting the minimum value from the boundary transfer value( $SP_{Fik}^{\max}$ ) of the given class of service ( $k$ ) and the sum of the numbers of reservation requests that can be accepted ( $SA_{Fjk}(Y)$ ) for the classes of service ( $k'$ ) of transport services ( $F_j$ ) to which the given class of service ( $k$ ) can be transferred.

8. Process according to Claim 6, wherein:

the total transfer capacity  $TSP_{Fik}$  from all of the other classes of service to a class of service ( $k$ ) is determined from the update of the number of reservation requests that can be accepted to said class of service ( $k$ ).

9. Process according to Claim 7 and Claim 8, wherein:

- the overall number of available seats  $XFAV_{Fik}(Y)$  is calculated by:

- adding the number of seats available locally  $av_{Fik}(Y)$  and the total acceptance capacity  $TSA_{Fik}(Y)$ ,
- and subtracting therefrom the total transfer capacity  $TSP_{Fik}(Y)$ .

10. Process according to any of Claims 1 to 9, wherein:  
the steps in the process are carried out each time there is an availability request  
from a customer.